

COOK INLET

How the Pieces of the Puzzle Fit Together

COOK INLET REGIONAL CITIZENS ADVISORY COUNCIL



CIRCAC

On March 29, 1989, the oil tanker Exxon Valdez ran aground on Bligh Reef in Alaska's Prince William Sound. The ill-fated tanker spilled 11 million gallons of crude oil into the water and created an environmental disaster that ranks among the worst in the history of North America. The incident also changed forever the way crude oil is transported in the United States.

In the aftermath of the Exxon oil spill, Congress crafted a comprehensive oil spill prevention bill. The Oil Pollution Act of 1990 (OPA90) is the result of public hearings around the state where citizens and local government leaders demanded public involvement in the oversight of oil transportation.

Many people felt that government and industry representatives had become too comfortable in their positions and that complacency was a contributing factor in the Exxon Valdez spill. The 1990 Alaska Oil Spill Commission Report, discussing the Exxon spill, states, "success bred complacency; complacency bred neglect; neglect increased the risk until the right combination of errors led to disaster."

Congress wanted to ensure that the sense of complacency that led to the spill in Prince William Sound would not be repeated in the future. Under OPA90, two regional citizen advisory councils were created - one for the Prince William Sound area and one for Cook Inlet. Congress envisioned the councils as a mechanism to foster long-term partnerships between industry, government, and the coastal communities of Alaska.

To ensure broad representation, Congress drew up the guidelines for selecting voting members on the councils. The **COOK INLET RCAC** Board of Directors is comprised of 13 members, each representing a specific interest or community. The cities of Anchorage, Kenai, Homer, Seldovia, and Kodiak each have a seat on the Council, as does the Kodiak Island Borough and the Kenai Peninsula Borough. Interest groups represented on the **COOK INLET RCAC** Board of Directors include Alaska native organizations, state chamber of commerce (tourism), environmental groups, recreational groups, commercial fishing groups, and aquaculture associations. In addition, **COOK INLET RCAC** includes non-voting members representing various local, state, and federal agencies.



The citizens that fill the seats on the Board of Directors bring to the table a wealth of information, expertise, and experience that has gone a long way toward protecting the waters of Cook Inlet from oil pollution. Since 1990, **COOK INLET RCAC** has been the driving force behind improved oil spill prevention and response measures for Cook Inlet. **COOK INLET RCAC** has also been a leader in monitoring the waters of the Inlet for signs of pollution from oil industry activities.

The success of **COOK INLET RCAC** can be traced to citizen participation. Each municipality, borough, and interest group represented on the Board of Directors is actively involved in the decisions that lead to safer oil transportation and production. When everyone works toward a common goal, the result is an environmentally sound Cook Inlet that will sustain future generations of Alaskans for years to come.

In the following pages, take a look at the "pieces of the puzzle" that comprise **COOK INLET RCAC** and define the role it plays in promoting environmentally safe marine transportation and oil facility operations in Cook Inlet.



Top / RCAC scientists sampling a Cook Inlet beach

Left / RCAC hosts an oil facility tour.

Right / Remote cameras scan for Cook Inlet iceflow.

Commercial Fishing

Commercial Fishing contributes greatly to the history and diversity of the Cook Inlet region and those involved in the industry have a substantial investment to protect. Through their representatives on the **COOK INLET RCAC**, commercial fishing and aquaculture interests have a voice in promoting environmentally safe marine transport and oil facility operations in Cook Inlet.

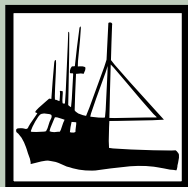
For thousands of years, native Alaskans have engaged in subsistence fisheries in area rivers. Russian settlers also consumed fish for sustenance and early saltries attempted to preserve fish for later consumption. Industrialization and the development of the canning process made commercial fishing viable on a large scale. Following Alaska's purchase from Russia in 1867, the prospect of lucrative untapped fisheries lured California and Pacific Northwest packing companies to Alaska.

Early canneries operated primarily with labor imported from the West Coast. Chinese and European immigrants comprised the majority of this labor force, while Native Alaskans rounded out the remainder. For many years, both early canneries and Cook Inlet residents used the fish trap to catch salmon. Today, three types of gear are commonly employed by the modern wild salmon fisheries in Cook Inlet - the purse seine, the drift gillnet, and the set gillnet.

A purse seiner targets salmon or herring by encircling them with a long net. The net, with its top suspended at the surface by floats, hangs like a curtain around the fish until the bottom of the net is drawn closed like a bag.

As long as 900 feet, the drift gillnet targets sockeye, chum, and coho salmon and is released from the boat with floats on the top and weights on the bottom. The net's mesh is just large enough to catch the fish behind the gills, a technique that reduces incidental catch of other species.

In Cook Inlet, set gillnet or setnetters primarily target sockeye salmon. Setnetters use skiffs to bring fish to shore. Like the drift fleet, they use gillnets except that the nets are anchored to the bottom just offshore from the beaches and range up to 630 feet in length.



Several organizations have formed over the years to benefit commercial fishing interests in the area. One of these, Cook Inlet Aquaculture Association, exists to protect self-perpetuating salmon stocks and the habitats upon which they depend. Their research focuses on the rehabilitation of salmon stocks and seeks to maximize the value of Cook Inlet salmon resources.

Recently, increased world supply of farmed fish and depressed Asian wholesale and retail markets have diminished the financial return for local fishermen. Fishing organizations and area businesses have initiated quality control and value-added programs in an effort to revitalize the industry and improve consumer awareness. By focusing on the versatility of the fish and its “wild” status, marketers hope to differentiate Alaskan fish from farmed species and re-capture the consumers’ favor.

Commercial fishing remains a vital part of the area economy and culture. Organizations like **COOK INLET RCAC** help keep the productive waters of Cook Inlet safe for future generations of fishermen.



Upper Left / Homer boat harbor crab pots and buoys.

Lower Left / Salmon boats return to Kasilof.

Right / A gillnetter pulls line over the rail.

Environment

Promoting environmentally safe marine transportation and oil facility operations in Cook Inlet is at the heart of the **COOK INLET RCAC** mission and is vital to protecting the rich sea life and water resources of the area.

The Gateway to Southcentral Alaska, Cook Inlet watershed is a spectacular ecosystem covering 47,000 square miles (similar in size to the State of Virginia) and encompassing alpine tundra, coastal rainforests, estuarine bays and coves, abundant wetlands, and world-renowned salmon streams. These diverse and productive habitats support a rich fabric of life, including black and brown bear, moose, migratory birds, Steller sea lions, whales, and all five species of wild Pacific salmon.

The region is valued both locally and nationally for its productivity. Cook Inlet includes four national parks – Denali, Katmai, Kenai Fjords, and Lake Clark; Chugach National Forest; Kachemak Bay National Estuarine Reserve; two national wildlife refuges, four state parks and sanctuaries, and seven critical habitat areas. Melting snow and ice from Mount McKinley, and the Chugach and Alaska ranges drain into rivers that feed the waters of Cook Inlet.

Cook Inlet essentially divides the borough into two landmasses. The communities on the east side of the Inlet comprise 99 percent of the Borough's population and most of the development. On the west side of the Inlet lies a sparsely inhabited area of glacier-fed streams and rivers, immense lakes, dense forest, volcanic mountains, and diverse wildlife.

Cook Inlet communities depend on the watershed's healthy waters and habitats for their livelihoods. Native villages pursue a subsistence lifestyle that is centuries old, supplying up to 90% of the villagers' diet. Home to some of the most productive fisheries in Alaska, Cook Inlet salmon, herring, halibut, and other species of bottom fish feed millions of people each year.

COOK INLET RCAC special projects such as digital coastline mapping, a computerized spill trajectory model, environmental sampling and surface current studies all help Cook Inlet citizens better understand the dynamic nature of this vast watershed.



One of several measures designed to protect these resources, Geographic Response Strategies (GRS), details site specific information for oil spill responders. Each GRS includes photos of sensitive coastal areas and outlines suggested equipment and techniques for addressing a spill at the location. This detailed plan promotes quick, effective response to a spill that occurs near particularly sensitive resources like salmon streams and sea mammal rookeries.

Since the 1989 Exxon Valdez oil spill, citizens have learned the importance of monitoring, spill prevention, clean-up techniques, and implementation of best management practices by industry and government agencies. Citizens have begun to better understand the long-term effects of spills and development activity within their region.

To that end, **COOK INLET RCAC** has brought together industry experts, educators, students and scientists from across the region to work on critical issues during forums, workshops, and field studies. Citizen-based organizations like **COOK INLET RCAC** work to maintain the vitality of the rich Cook Inlet environment.



Left / Kenai Lake in autumn.
Right / A bull moose cools his heels.
Bottom / Beluga whale.

Oil Industry

Russians first documented oil seeps along the west shore of Cook Inlet across from Anchor Point 150 years ago. Not until a century later would a consortium of oil companies discover the black gold on the east side of the Inlet near Swanson River. At nearly the same time, Unocal tapped into the Kenai Peninsula's first natural gas field. Since those early days, Southcentral Alaskans have seen boom and bust cycles shape local economies while oil and gas development in the Cook Inlet region has been at center stage.

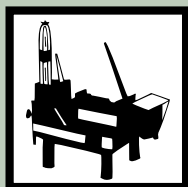
By law, the major companies in the Cook Inlet oil industry provide annual funding for **COOK INLET RCAC**. In accordance with OPA90, the citizens-based group uses these funds to:

- monitor and research the impacts of the operation of terminal, off-shore facilities and tankers;
- advise federal and state agencies on regulations and other actions relating to the industry;
- review industry permits, regulations, and contingency plans for facilities and tankers;
- recommend modifications to existing practices that may affect citizens and the environment.

Cook Inlet oil production, which peaked at 230 thousand barrels per day in 1970, has since declined to approximately 35-40,000 barrels per day. Over the past 50 years, fields in and around Cook Inlet have produced a cumulative total of 1.3 billion barrels of crude oil and 5.8 trillion cubic feet of natural gas.

Extraction occurs in offshore fields tapped by 16 production platforms, though operations on some of those platforms follow market conditions and are shut in from time to time. All oil from Cook Inlet is refined at a Nikiski refinery that produces gasoline, propane, butane, jet fuel, heating and bunker fuel. A gas liquefaction plant, also at Nikiski, and the only one of its type in North America, exports 1.3 million barrels of liquefied natural gas each month.

The economic impact of the oil and gas industry in Cook Inlet is substantial. Various companies employ more than 1500 workers and many more on contract, contributing hundreds of millions of dollars



annually to the economy. Oil and gas property also accounts for a large portion of the tax base within the Kenai Peninsula Borough and local communities. In Nikiski, the oil industry pays about 70 percent of the area's property tax.

Exploration continues in the Inlet amid industry estimates that 80-90 percent of the region's recoverable crude oil reserves have already been produced. Signs of a turnaround in the oil industry here have manifest in a number of recent projects. Among them: a \$90 million gas-to-liquids plant to test the innovative technology of converting methane gas into synthetic crude oil; a new oil platform, the "Osprey," which expects to add 30,000 barrels per day to the area's oil production. Still others have opened up natural gas fields in Lower Cook Inlet near Ninilchik and are considering construction of a pipeline to the southern Kenai Peninsula. As the industry grows, so grows **COOK INLET RCAC'S** role in working with industry to keep Cook Inlet safe and pristine.



Top / Workers deploy an oil boom during a spill drill.
Left / A PHILLIPS Alaska, Inc. oil platform near Tyonek.
Right / The double-hulled HMI Cape Lookout Shoals.

Native Culture

To ensure that their interests have a voice on the **COOK INLET RCAC**, a representative from the area native organizations participates on our board of directors.

Native Alaskan tribes called the Cook Inlet region their home long before European immigrants came to the area. Natives in most of the Cook Inlet region descend from the Tanaina people, a branch of the Athabaskan Native Americans who once migrated throughout North America and ranged as far south as the Navajo in New Mexico. The Athabaskan populated much of Interior Alaska and have descendents in many of the current day tribes. Others descend from the Alutiiq, coastal dwelling people in Southwestern Alaska. In all cases, the role of cyclic abundance played heavily in their cultural evolution.

Over the centuries this abundance has attracted people from distant lands who changed the landscape with different values, trade, and religious systems. From the Russian American Company that transformed the Alutiiq culture during their quest for furs in the Kodiak region to the more recent establishment of oil production facilities further up the Cook Inlet, large scale resource extraction continues to influence the lives of Native Alaskans. As oil facilities emerged and marine transportation increased in the area, native citizens have worked to maintain their traditions and values. Though the appearance of the region has changed, the underlying heritage reverberates through many native villages and tribal organizations still active in Cook Inlet.

Residents in the region, both native and non-native, maintain an active subsistence lifestyle that utilizes the cyclic resources. Today, tribes across Southcentral Alaska sing and perform traditional dances, carve ceremonial masks, make traditional clothing, build kayaks, and work to preserve their language. Interpretive sites educate the public; books and oral tapes of elders transmit the language and tradition; summer youth camps and other programs teach children job skills, archaeology, survival techniques, tool making, and first aid to help strengthen the communities.

To meet the growing health and dental needs of their people and to provide comprehensive services, tribe members have established clinics in several Cook Inlet communities from Homer to Kenai. Remote coastal



villages like Port Graham, faced with few opportunities for new development, have invested in mariculture and salmon hatchery programs to build a sustainable local economic base. Program managers hope to create more predictable income streams through regular harvests of wild salmon and shellfish. Success in these endeavors could stabilize local economies with increased employment and improved community services.

The resurgence in ethnic identity and pride has also been the catalyst for events such as the repatriation of human skeletons excavated decades ago and shipped to the Smithsonian Institution. Exhibits that elaborate Native Alaskan history and foster public awareness have become regular features of museums across the region.

Only a few decades ago many feared that symbols of Native Alaskan culture could perhaps vanish forever. Today, efforts to preserve and revitalize traditional culture can be seen in most aspects of life around Cook Inlet. By taking an active role in **COOK INLET GCAC**, native communities help promote a safer environment for this and future generations.



Upper Left / A 1948 cabin scene at Eagle Rock.
Lower Left / Area Native woman during subsistence fishery.
Right / Beaded Athabaskan coat.

Tourism & Recreation

Whether scaling rugged mountains, hiking across moss-carpeted forests, or reeling in giant halibut and king salmon, nearly one million visitors from around the world travel to Cook Inlet to witness its magnificent beauty each year. Often, the highlights that tourists seek have their origin in the waters of Cook Inlet, thus, representatives of various tourism and recreation organizations have seats on our Board of Directors. Their guidance helps citizens of these large interest groups determine **COOK INLET RCAC** priorities.

Many of the Kenai Peninsula's 50,000 residents are employed in the tourism industry that has played a large role in the 50 percent increase in retail and wholesale jobs during the last decade. As the Cook Inlet region evolves into a world class vacation destination, opportunities have emerged in guiding, entertainment, lodging, and restaurants. The Cook Inlet area is also home to federal parks, preserves, forests, and refuges offering unique recreational experiences at well-maintained sites.

Fishing in the Cook Inlet watershed is best described in superlatives: the biggest catch, the best fishing hole, the heaviest halibut ever to tip the scales. Fishing possibilities include anything from dipping a net into icy waters during the hooligan run in May to hoisting a 70-pound king over the rail. Local waters almost guarantee catches of chinook, coho, sockeye, or pink salmon during the peak of the runs and anglers often participate in catch and release early and late in the seasons. According to reports, approximately 1200 charter boats operate on the Peninsula and each year recreational fishing accounts for nearly 500,000 "angler days" – or cumulative individual fishing days - along area rivers and streams.

Camping is also a major tourist activity on the Peninsula. Many locations in the area are equipped with water, firewood, restrooms, and RV hook-ups. In the summer, the highways are busy with motor homes and camping trailers. Deep Creek and Clam Gulch beaches teem with activity as clam diggers jockey around the sandbars in search of razor clams.



Community-sponsored athletic events like softball and golf, rodeos, fairs, and festivals blanket the summer calendar. Mountain bikes are now a common sight in town and along trails. Diving, canoeing, and kayaking offer clean ways to enjoy the splendor of area waters. In recent years, the winter market has also gained attention as communities have developed groomed ski trails, snowmachining clubs, ice hockey rinks, and even snow sculpture contests and winter parades.

Alaskans have a strong commitment to the fine arts as demonstrated by their state of the art auditoriums and support of local dance and theatre groups. Local theatre companies perform all summer long and, no tour of the Cook Inlet area would be complete without visits to local museums and galleries where one can glimpse the best of the area's art – both past and present.

Through **COOK INLET RCAC** and its initiatives, area citizens raise an effective voice to protect the natural resources for themselves and for the many visitors who travel to Cook Inlet each year.



RCAC photo

Alaska Division of Tourism photo

William Heath/KC18 photo

Left / A happy angler sets the hook.
Upper Right / Russian River campers.
Lower Right / Kenai Visitors & Cultural Center.

Cities, Boroughs, and Municipalities

The Exxon Valdez Oil Spill toll on private businesses and individuals is well known. But the burden on cities, villages, and municipalities affected by the spill has been less publicized. Through their participation in **COOK INLET RCAC**, local governments have taken action to avoid another disaster like the one caused by the grounding of the Exxon Valdez.

Back in 1989, mayors, council members and city workers all contributed long days and weekends to the cleanup effort and had to shift their focus from priorities that served citizens’ everyday needs. Economic development activities to revitalize the economy and routine maintenance suffered when resources had to be diverted or were overwhelmed by the influx of clean-up workers. The temporary increase in population caused higher incidents of crime as well as sanitation, day care, and camping facilities shortages. Many publicly funded organizations also found it hard to compete with higher wages paid to clean-up workers and lost quality personnel at a time when they were needed most.

After mitigating losses, communities began the task of cataloging their experience in a new crisis management methodology. They developed supply inventories, contact lists, goals and procedures to achieve success during a critical incident. They wrestled with budgets impacted by lost tax revenue on all fronts. In short, they began the long recovery process by planning for the worst and working toward the best. Since 1990, **COOK INLET RCAC** has played an important role in that effort. Below are some of the milestones achieved since those early days.

Chambers of Commerce

Anchor Point Chamber
P.O. box 610
Anchor Point, AK 99556
(907) 235-2600

Kodiak Chamber
P.O. Box 1485
Kodiak, AK 99615
(907) 486-5557

Anchorage Chamber
441 W. 5th Ave., Ste. 300
Anchorage, AK 99501
(907) 272-2401

Ninilchik Chamber
16785 Sterling Highway
Ninilchik, AK 99785
(907) 567-3571=

Homer Chamber
P.O. Box 541
Homer, AK 99603
(907) 235-7740

Seldovia Chamber
Drawer F
Seldovia, AK 99663
(907) 234-7890

Kenai Chamber
P.O. Box 497
Kenai, AK 99611
(907) 283-7183

Soldotna Chamber
P.O. Box 236
Soldotna, AK 99669
(907) 262-9814

A Few Cook Inlet RCAC Milestones:

- Developed Geographic Response Strategies (GRS) for site-specific oil spill response in highly sensitive areas.
- Developed an oil spill trajectory model as a planning tool to estimate the flow of oil during a spill.
- Funded arctic trials for cold weather In-Situ oil burning and provided guideline review.
- Hosted workshops for:

Physical Oceanography	Environmental Monitoring
Geographic Response Strategies	Pipeline Risk
Navigational Risk	Cook Inlet Oil Spill Trajectory Simulation
- Developed monitoring strategy to assess downstream effects of oil facility discharges.
- Collected the first background chemistry and biological data for several nearshore areas in Cook Inlet.
- Developed a forum and process for public review of industry's oil spill contingency plans.
- Developed a database for detailed "fingerprinting" to help identify sources of hydrocarbons to Cook Inlet.
- Conducted first detailed surveys of "sentinel" species for Central and Lower Cook Inlet.
- Introduced ShoreZone Mapping system for Alaska that details nearshore habitat information on algae, invertebrates, and substrate.



The Pieces of the Puzzle Come
Together Through Cook Inlet RCAC

